

### SUPPORT FOR THE AMENDMENT

This Amendment amends Claims 5 and 7-8; and adds new Claim 14. Support for the amendments is found in the specification and claims as originally filed. In particular, support for Claims 5 and 7-8 is found in Claim 5. Support for Claim 14 is found in the specification at least at page 20, lines 1-3. No new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 5-12 and 14 will be pending in this application. Claims 5, 7 and 8 are independent.

### REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the application, as amended, in light of the remarks that follow.

Claims 5-6 and 9-10 are rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 5,955,392 ("Takeuchi"). In addition, Claims 11-12 are rejected under 35 U.S.C. § 103(a) over Takeuchi. Claims 11-12 are also rejected under 35 U.S.C. § 103(a) over Takeuchi in view of JP 8151271 ("Kazuo").

The invention of independent Claim 5 provides a method for producing a ceramic sheet in which a first green sheet is baked while being sandwiched between spacers, where each of the spacers is a calcined sheet comprising spherical ceramic particles having an average particle diameter of 0.1 to less than 5  $\mu\text{m}$  as a main component. As a result, the handling of fine spherical ceramic particles is facilitated and there is no possible damage on the surface of the first green sheet. Furthermore, the spacer can keep its calcined state and porosity until the first green sheet is completely baked, so that decomposition gas generated during the baking of the first green sheet can easily be removed from the first green sheet through the pores of the spacers. In addition, the spacers have a low bulk density during the

baking of the first green sheet. This lowers the friction resistance between the first green sheet and the spacers, so that when the first green sheet shrinks during baking the first green sheet slides smoothly on the surface of the spacers without forming surface flaws.

In contrast to Claim 5, Takeuchi discloses a method of producing a ceramic sheet in which a "ceramic green sheet may be laminated with **other green sheets** and fired".

Takeuchi at column 6, lines 8-9.

Kazuo discloses a ceramic sheet obtained by firing a green sheet placed on or between **porous sheets**. Kazuo at English-language abstract.

However, the cited prior art fails to suggest the independent Claim 5 limitations of "sandwiching a first green sheet between spacers; baking the first green sheet while the first green sheet is sandwiched between the spacers; and producing a ceramic sheet ... , wherein each of the spacers is a **calcined sheet**".

Furthermore, the cited prior art fails to suggest the independent Claim 5 limitation that the recited ceramic sheet, produced by sandwiching the first green sheet between spacers, has "not more than 5 defects in an area of 900 mm<sup>2</sup>". The Final Rejection at section 3, lines 8-10, asserts the "Takeuchi discloses it is possible for the surface of the ceramic sheet to have 1 defect on the surface (column 4, lines 3-10), which meets the claim limitation of having not more the 5 defects in an area of 900 mm<sup>2</sup> from the first green sheet." Applicants respectfully traverse this assertion. Takeuchi at column 4, lines 3-10, discloses:

Further, a particle having a high average degree of aggregation is prone to cause not only a defect on the surface of a ceramic substrate but also a defect such as a scratch. Therefore, in the present invention, secondary particles each having a particle diameter of 20  $\mu\text{m}$  or more should be 1 vol % or less. Desirably, a secondary particle having a particle diameter of preferably 10  $\mu\text{m}$  or more, more preferably 5  $\mu\text{m}$  or more, is 1 vol% or less. Takeuchi at column 4, lines 3-10.

In addition, Takeuchi discloses producing "a ceramic substrate scarcely having surface defects". Takeuchi at column 6, lines 20-21. In Table 2, Sample No. 15 and Table 10,

Sample No. 24, Takeuchi discloses ceramic substrates with 0 defects per cm<sup>2</sup>. However, Takeuchi does not disclose that zero defect ceramic substrates were produced by firing a green sheet sandwiched between spacers. Takeuchi fails to suggest the independent Claim 5 limitation that the recited ceramic sheet, produced by sandwiching the first green sheet between spacers, has "not more than 5 defects in an area of 900 mm<sup>2</sup>".

Because the cited prior art fails to suggest all the limitations of independent Claim 5, the prior art rejections should be withdrawn.

Applicants thank the Examiner for the indication that Claim 7 would be allowable if rewritten in independent form. Final Rejection at page 4, section 7. Accordingly, Claim 7 is rewritten in independent form. In addition, Claim 8, which is not rejected, is rewritten in independent form.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman F. Oblon

A handwritten signature in cursive script, reading "Corwin P. Umbach".

Corwin P. Umbach, Ph.D.  
Registration No. 40,211

Customer Number

**22850**

(703) 413-3000

Fax #: (703) 413-2220

NFO/CPU:sjh